

# Overview of Changes in SAS

This overview describes the changes in SAS 1.1 (the forthcoming update), together with selected screenshots.

It also outlines planned changes beyond 1.1.

## Changes in SAS 1.1

Note: Due to the sheer size of these changes, some data structures have been modified with the effect that all campaigns already started and played beyond turn 1 will not load. Players will need to re-start all such campaigns. This is unfortunate but unavoidable.

### ***Play by Email (PBEM)***

Files saved for PBEM can optionally be password-protected.

For such files, an automatic lock for both players is placed on any function during calculation that could change the calculation result, namely:

- Any player change to fleet tactical responses.
- Any player change to fleet Rules of Engagement or route.
- Any player change to strike targets, or composition.
- Any player change to the emergency return of ships to base.

A password protected file is also of course safe from being opened for viewing by another player.

### ***New Mediterranean Map (that includes Toulon)***

At time of writing, it is intended to include in update 1.1 a new Mediterranean Map that will include the port of Toulon. If this is not possible, a new map will be separately made available within a week or two of the release of update 1.1.

Players can use the map to construct their own scenarios that use assets basing out of Toulon.

It is planned further down the track to create an 'out-of-the-box' scenario that will use this map.

## Airpower

### New available aircraft in the database

Nineteen new aircraft have been added:

- British: Hellcat F1, Hellcat F2, Tempest V and Hurricane IV.
- American: F-5A Lightning, F2A-2 Buffalo (carrier capable version), F4U-4 Corsair, F8F-1 Bearcat, P-36C Hawk.
- German: He-117 A5, He-219 A-0 Uhu, Do-335 Pfeil, Bf 109K-4, Ta 154 A-1.
- Japanese: Ki-67-1b Peggy, P1Y Frances, J2M5 Jack, N1K2-J George, Ki-100 1-a.

### Aircraft Production

- The current system where you can prioritize or restrict certain aircraft and change the overall aircraft production budget allocation is retained BUT you can ALSO, *for any one or more selected aircraft*, manually set contracts for target production numbers (including zero – to force a stop to production of any aircraft) (PICS of new aircraft production UIs).
- For aircraft so produced under contract, the costs start as 50% more than auto produced aircraft; but over time (approx one year) the costs diminish to be up to 50% less than the standard costs provided contract numbers are not again significantly varied by the player. This reflects the fact that manual contract changes start out being more expensive because flexibility disrupts the standard production schedules set up by your 2IC. But over time, factories get more efficient at producing the same aircraft *provided* there are no significant variations in numbers. Players get a warning if planned changes to contract numbers would be significant enough to incur extra costs. The bottom line is: the manual contract system, if cleverly done, can get a player more of the aircraft he wants, more cheaply, BUT it can also be more expensive if circumstances force frequent changes to contracts; and it is more work to monitor whether such changes are needed. (The 2IC does all this for you normally). Players will need to think carefully before they institute manual contracts. Fortunately, because the manual contract system is an *adjunct* to the standard auto system, players can always precisely control the extent to which they want to get involved in aircraft production decisions. And any of the contracts can at any time be cancelled, thus returning to the 2IC's control of production of those aircraft previously under contract.
- There is a reduction – from 20% to 10% - to the default proportion maintained by the AI of aircraft that are intended for reconnaissance. This will help the problem of 'too many Lysanders' (and other non-combatant aircraft). (The manual contract system also allows players to restrict or stop the production of such aircraft).
- Changes have been made to the way in which resources get allocated to aircraft production – the share for this is taken earlier each turn, before certain other costs get deducted. This better guarantees a reasonable budget share for aircraft, meaning players will see more aircraft being produced.

- Improvements have been made to the algorithm the AI uses to select from currently available aircraft those that are 'best in class' as the ones recommended for production.
- The listing of aircraft types and numbers in the proposed aircraft production schedule now shows:
  - Those aircraft rated by the AI as 'best in class' – this may help your selection of aircraft either for prioritization or for manually set contract production.
  - Enhanced indicators showing clearly which types are currently restricted, prioritized or under contract.

## **Squadron Organisation**

- Squadron limits have been introduced, and their size reflects the standard squadron sizes in each of the 6 nations represented in SAS for aircraft of different roles.
- Squadron organization for a player's aircraft at all airfields and carriers is shown in the Briefing Report.
- Squadron sizes affect aircraft deployment and selection for CAP and air strike duties. (That is, minimum squadron operational sizes apply to numbers of aircraft selected for CAP and for air strikes).

## **Auto Aircraft Deployment**

- Aircraft are deployed in 'packets' equal in size to the minimum notional squadron operational strength.
- Fleet carriers get enhanced priority for aircraft, ahead of escort and light fleet carriers.
- The current ability to manually and selectively override deployment is unchanged.

## **Control of Air Strikes**

Radical changes have been made to the way that information on pending air strikes is presented, and to the options a player has for controlling air strikes. Players still select airfields and carriers for 'tac response' control in the same way. BUT, whereas players were previously limited to manually setting strike targets, and to viewing pending strikes from each of these and amending or aborting them (which was time consuming and somewhat limiting), the new system allows both much more information and control whilst streamlining the interactions a player needs to make.

A big part of these changes is the new system for categorizing and presenting strikes as either 'pending', 'promotable', 'withheld' or 'invalid'. The meaning of these categories and the interface for viewing and controlling strikes in each of these categories is explained shortly.

To explain the changes, they are best grouped into two categories:

1. Changes to criteria affecting the formation of strikes.
2. Changes to the interfaces for viewing and amending strikes.

### **Changes to criteria affecting the formation of air strikes**

When planning air strikes every hour, the AI applies a large number of considerations. These were previously 'hidden' from a player. Now, the criteria have been further added to, and some have been exposed as variables that a player can change if he wants:

- Minimum target value: The AI determines the target value of enemy fleets and ground installations (airfields, port structures, aircraft on the ground etc). The target value for fleets is based on the fleet tonnage (which is a reflection of the resource points (RPs) needed to construct them). Ground targets are rated by a formula that accounts for the RP value of the infrastructure and aircraft there. If the target value is below the minimum required for an air strike, the strike will be marked as 'withheld'. A player can vary the default minimum target value.
- Bomb-weights: The AI determines the number and type of bombers in the strike based on the number needed to carry at least a minimum total weight of bombs against the target, given its value. The optimum weight is used as a guide to the maximum number of bombers needed. A player can view and edit the minimum weight and the optimum weight. These values are expressed as 'tonnes per BB' (assuming a standard treaty-sized battleship target. For example, if the minimum value is 5, this means that the AI will try to carry at least 5 tonnes of bombs against a target of 45000 tonnes full load. If the enemy fleet has a number for ships totaling say 90000 tonnes, then the minimum weight would be 10 tonnes.
- Fighter to bomber ratios: A player can view and amend the ratio of fighters to bombers that the AI will try to meet when forming a strike. There are two ratios: a minimum and an optimum ratio. If there are not enough fighters to allow the minimum ratio to be met, the strike is marked as a 'promotable' strike.
- Fighter to enemy fighter ratios: A player can view and amend the ratio of own to enemy fighters needed for a strike. Again, there is a minimum and an optimum ratio. If not enough fighters to meet the minimum ratio can be found the strike is marked as 'promotable'. **NOTE:** There is a new and very important change to the way that the number of enemy fighters is estimated – this is explained a little later in the notes.
- Max age of enemy intel: It is pointless to send a strike against a target you don't know enough about – either its composition or location. Consequently, the AI takes the age of your enemy intel into account. It will ignore targets where the latest intel is older (in hours) than a set maximum. There is one maximum for enemy fleets at sea and another for enemy fleets in port (and the port itself). Both these values can be varied by a player from their default values. Potential strikes against targets where the intel is too old are categorized as 'withheld'.
- Enforce preferred radius: By default, the AI will try to form a strike from bombers that can carry at least a medium weight of bombs (for their type) to the target. Often, this restricts somewhat the combat radius of the aircraft concerned but is an attempt to maximize their effective use. A possible strike that fails this criteria (ie one where not enough bombers can be found without resorting to light

load bomb weights) is marked as 'withheld'. A player can toggle this constraint off (or back on).

- Avoid concurrent strikes: By default, the AI will not launch a strike vs a target if there is already one in the air from the same airfield or carrier against the same target. A strike that could be launched but for this is marked as 'withheld'. A player can toggle off the 'avoid concurrent strikes' constraint.

## **Changes to the interfaces for viewing and amending air strikes**

Every hour, whenever the AI has possible strikes to launch, the calculations are displayed in a new 'Own Air Strikes' dialog, but only for those from airfields and carriers a player has selected for 'tac response'.

Turn calculation is suspended while the Own Air Strikes dialog is showing.

The height of the window can be changed by clicking and dragging the bar at the bottom. This allows more (or less) entries in the window to be seen without having to scroll.

The dialog can be closed by clicking the 'X' button on the dialog or the 'q' hot key. Calculation resumes as soon as the window is closed.

The dialog has a button giving you access to a new UI to change the criteria mentioned previously. *After any change in criteria, the AI will re-calculate ALL strikes* and re-present the Own Air Strikes dialog.

The dialog has up to four tabs, one for each category of strike – pending, promotable, withheld and invalid. A tab will be shown IF there are any possible strikes in that category from any airfield or carrier selected for tac response AND the player has elected to have the tab displayed. (The pending strikes tab is always displayed, but a player can elect to see (or hide) the promotable, withheld and invalid strike tabs).

A player can move between the tabs using the Tab key or by clicking on the tab header.

### **1. The Pending strikes tab**

A pending strike is defined as one that is ready to go. It meets all the required criteria. If the airfield or carrier has been selected for tac response, a player can optionally amend or abort it. Otherwise, the strike will be launched.

The tab shows, for each airfield and carrier selected for tac response:

- Each target for which a strike is pending.
- For that particular pending strike, the target value, total bomb weight, number of bombers and fighters (and the number of each remaining as available for selection if required), as well as the estimated number of enemy fighters over the target.
- If an airfield or carrier has multiple potential pending strikes, each against a different target, the target currently selected is shown. If the selection is by the AI, the selection is shown with a star; if the target has previously been selected by

the player, the target is indicated with a star in a darkened circle. (Selection of targets is explained below).

By clicking on any such pending strike, a player can get more information, and can also invoke some control options:

- By clicking on the left section of the entry in the list for a pending strike, a player can view an expanded section showing details of the composition of the pending strike (and of all remaining available aircraft and the pilot quality rating for pilots at that airfield or carrier), as well as details of the target, including any known aircraft there.
- By clicking on the right section of the entry, a player can invoke some control options:
  - The option to view/edit the strike in the 'Air Strike Orders' dialog can be enabled (or disabled) (The Air Strike Orders dialog is the dialog currently used to control air strikes in detail. Here, the exact composition of the strike can be tailored).
  - The nature of the target selection for that airfield or carrier can be changed from auto to player-selected. (Auto selection means that the targeting is controlled by the AI and can change every hour to the target that is in range and of highest value. A player-selected target means that the airfield or carrier must always concentrate on that target whenever possible, regardless of its target value).
  - Or, target selection can be disabled entirely for that hour, for any airfield or carrier.

## **2. The Promotable strikes tab**

A promotable strike is one that meets all criteria except those related to either minimum fighter ratios or minimum total bomb weight vs the target. (The reason for withholding the strike is listed) .

By clicking on any such promotable strike, a player can get more information, and can also 'promote' the strike to pending:

- By clicking on the left section of the entry in the list for a promotable strike, a player can view an expanded section showing details of the composition of the number of aircraft at the airfield or carrier and the pilot quality rating for pilots at that airfield or carrier, as well as details of the target, including any known aircraft there.
- By clicking on the right section of the entry, the strike is promoted to pending. It will immediately disappear from the promotable strikes tab and appear in the pending strikes tab.

## **3. The Withheld strikes tab**

A withheld strike is one that fails any or all of the remaining criteria. If the strike is from a airfield or carrier selected for tac response, the player will see these strikes listed, along with the criteria that has caused the strike to be withheld. (Remember, you can change these criteria and force a recalculation).

By clicking on the left section of the entry in the list for a withheld strike, a player can view an expanded section showing details of the composition of the number of aircraft at the airfield or carrier and the pilot quality rating for pilots at that airfield or carrier, as well as details of the target, including any known aircraft there.

#### **4. The Invalid strikes tab**

An invalid strike is one that fails for reasons out of a player's control – such as bad visibility, damage to a carrier or airfield, insufficient aircraft for any strike, target out of max range, and so on. If the strike would have been from a airfield or carrier selected for tac response, the player sees these strikes listed, along with the reason why a launch cannot be made.

By clicking on the left section of the entry in the list for an invalid strike, a player can view an expanded section showing details of the composition of the number of aircraft at the airfield or carrier and the pilot quality rating for pilots at that airfield or carrier, as well as details of the target, including any known aircraft there.

### **Estimates of enemy fighters**

A new and more accurate estimate of enemy fighters has been added. The estimate applies whenever strikes are planned, and it is taken not only for enemy fighters over a target, but also for all enemy fighters that are estimated to be in range of *any hex on the likely flight path* for the planned strike.

Together with the new Air Interdiction and CAP rules (see below), SAS now models air strikes much more realistically by accounting for suspected and actual fighter interdictions en route. No more does the German player send strikes over mainland England to strike targets in the Irish Sea – unless of course he has huge supporting fighter capability.

### **Strafing by Fighters**

Fighters now perform strafing attacks against ships and ground targets (including enemy aircraft on the ground) *when they get the chance*. In other words, damage is not done just by bombers alone.

### **Fighter sweeps**

A new category of air strike has been added – the fighter sweep.

A sweep is an air strike that includes only fighters. Its purpose is twofold:

- To challenge (and reduce) enemy fighter power in targeted hexes (and at enemy bases that are in range to intercept).
- With surviving aircraft, to conduct strafing attacks.

Fighter sweeps can be set up both automatically as well as manually.

They are planned automatically whenever the ‘enable fighter sweeps’ option is active and conditions are ‘ripe’ for a sweep. (The ‘enable fighter sweeps’ option is active by default but can be disabled by a player). The AI judges conditions are suitable by comparing the number of a player’s available fighters at an airfield or carrier compared to the estimated number of enemy fighters over a target. Conditions are acceptable whenever the ratio is:

- Greater than or equal to the stipulated minimum fighter-to-fighter ratio for a strike (which is a player-configurable criteria – see above).
- Less than a defined threshold. (The threshold is player-configurable and is anywhere between 0 and 100% of the difference between the minimum and optimum fighter-to-fighter ratios).

A sweep can also be organized manually at any time – by indicating that a pending strike with bombers is to be edited. Then, in the Air Strike Orders dialog, the bombers can simply be removed (and more fighters added if needed).

## **Air Interceptions**

A whole new category of air attack has been added – air interception.

An air interception occurs when opposing aircraft enter the same hex and contact is made. It involves combat between opposing aircraft in the air only.

Because of the new rules regarding Combat Air Patrols (CAP) (see below), where CAP aircraft can range from their airfield or carrier, it is possible for interceptions to occur between:

- An air strike that is en route to the target (or returning to base) and an enemy combat air patrol. (It is possible that the strike could be engaged multiple times en route by different combat air patrols from any bases in range that are operating a CAP).
- Two rival combat air patrols that clash in the same area.

Whenever an air interception occurs:

- This is shown as an ‘Air Interception’ event during calculation. A pop-up dialog announces the location(s) of the interception(s). Moving the mouse over the dialog expands it and allows access to a battle results screen, in the same way as does the Air Strike pop-up dialog.
- The battle results screen for an Air Interception looks similar to one for an Air Strike except that the results relate to aircraft in the air only, and not to damage to ships or ground targets (because an Air Interception only involves air-to-air combat).

Air Interception reports have been added to the Briefing Report, so the battle results can also be reviewed after the event, just as for air strikes.



## **Combat Air Patrol (CAP)**

Combat air patrols are now modeled more realistically.

The number of aircraft on patrol from an airfield or carrier is determined by the number of fighters available and the proportion of full establishment that should be on patrol. The proportion is initially set based on a player's strategy, with more defensive strategies favouring more aircraft on CAP. But a player can vary this percentage at any time.

The launching of CAP is weather/visibility dependant and also dependant on airfield/carrier damage.

Air patrols now also range beyond the hex of origin. The AI calculates a maximum patrol range given the number of aircraft and their cruising speed. Friendly fleets within this range and over 50000 tonnes total size automatically attract CAP cover when possible. To take an example, patrols from Alexandria can lend support over fleets in the Eastern Mediterranean. The new air interception rules allow such patrols (and indeed patrols from any carriers in a fleet) to engage enemy air strikes at some distance from the fleet. An enemy air strike may be engaged multiple times en route by different combat air patrols from any bases in range that are operating a CAP.

## **Fighter combat performance**

The combat effectiveness of fighters on CAP has been 'tweaked' as a result of playtesting.

A new factor has been added for calculating the rate at which non CAP fighters can scramble when attacked. The factor – which is the percentage of available aircraft that can intercept is:

- For airfields, the current infrastructure value \* 50.
- For carrier, 40 for fleet carriers and 20 for escort carriers.

## **Air Group experience**

The rate of accumulation of experience from combat has been improved:- it gets harder to improve the more experienced a pilot is.

Experience is gained from air strikes as well as air interceptions.

The average quality of pilots in an air group is now shown in all key places where it is relevant:

- The Air Strike battle results screen.
- Air Interdiction battle results screen.
- The Briefing Report.
- The new hourly 'Air Strike Orders' window.
- The revised and renamed 'Hex Assets' window (as explained below).

## Air power maps

During turn calculation, a player can toggle on or off mappings of friendly and enemy air power across the whole map, as well as mappings of air power from airfields and carriers in a selected hex.

These mappings provide detailed information of how air assets can project attacks.

They are for interest, as well as being helpful to players who may wish to plot changes to fleet movements during turn calculation.

There are three settings, and a player toggles between them by hitting the 'a' key:

- All air power maps disabled.
- Friendly air power maps enabled.
- Enemy air power maps enabled.

When friendly air power mapping is enabled:

- The *potential* value of a player's air attacks *from all sources* is shown on the map, for all hexes:
  - The strength of the attack (ie the effective total bombload that could be delivered to that hex) is coloured in shades of red, to indicate strength of attack.
  - As the mouse is moved over the map, arrows show where the attacks could come from, and an information panel shows the exact number of attack points, names the bases in range, and describes all aircraft that could reach the hex, grouped into categories (eg Torpedo Bomber, Level Bomber, Fighter etc).
  - If the mouse is positioned over an airfield or a fleet with carriers, the map shows similar information, but just for the aircraft based in that hex. A maximum air strike radius is also shown, and the attack points are shown specifically for every hex within radius. In addition, the information panel shows the exact combination of aircraft that could reach each hex.
  - If the mouse is positioned over the indicator for a strike, a separate information panel shows summary information on the strike – eg where it is from, where it is headed, and the number and type of aircraft in it.

Similar information is shown when enemy air power mappings is enabled, but the values are estimates only, and no air strike information panel is available..

## Enemy fleet detection

The algorithm for detecting enemy fleets at sea from the air has been improved.

## **Aircraft data correction**

The Barracuda has been recognized as having dive-bombing capability.

## **Enhanced User Interfaces**

### **Turn Calculation screen**

Certain functions can also be performed using hot keys: zooming in and out, scrolling the map, and pausing the calculation.

### **Popup event messages during turn calculation**

- The display of these messages has been made less distracting, more attractive and less ‘clunky’.
- They now expand to show message details on mouse over only if this feature has been enabled – this minimizes unwanted screen clutter (Players can enable/disable this with a hot key).

### **Popup Air Strike Orders dialog**

Has been made more attractive.

### **Popup ‘Fleet Details’ window during turn calculation**

- The window has been made smaller and more attractive, and its display is enabled/disabled with a hot key (to minimize unwanted screen clutter). It can also be closed quickly with the ‘q’ hot key.
- The window includes two new tabs to supplement the existing fleet details tab:
  - Details on all friendly air groups in the hex are shown – their composition, pilot quality, launch readiness status, as well details of any AC on CAP
  - When relevant, a Port Infrastructure tab shows details of the infrastructure at the port.
- Players can move between the tabs using the Tab key or by mouse clicks.
- The ‘Set Targets’ button on the Fleet Details pane has been removed as there are now much better ways to set air strike targets (as explained in the ‘Control of Air Strikes’ section).
- The window has been renamed from ‘Fleet Details’ to ‘Hex Assets’ to better indicate its new function.

### **Popup Tactical Fleet Response orders dialog during turn calculation**

- Has been made more attractive and, when displayed at the player’s initiative (from the Fleet Assets dialog) it now shows *all friendly fleets*, not just the currently selected one. This allows easy control of tac responses for all fleets from the one

screen without having to close and open multiple screens. The dialog has been enlarged to allow the better display of multiple friendly fleets.

### **Air Strike Battle Results screen**

- The number of aircraft on CAP is shown, separately from those scrambling to intercept.
- Pilot quality is shown (both descriptively, in terms such as ‘Ace’, ‘Veteran’ etc, as well as numerically (rated out of 10).
- Losses due to enemy fighter attack are shown separately from Ack Ack.

### **All Battle Results screens**

- Can be closed quickly with the ‘q’ key.
- The window ‘flash’ that occurred after closing them has been eliminated.
- When more than one battle of the same type is reported in any hour, a player can move between them using the Tab key or new ‘>’ and ‘<’ buttons at the top of the screen. This eliminates the need to exit out from the results screen each time, and then click again on the popup event message to get the next one(s).
- The Tab key and new ‘<’ and ‘>’ buttons can also be used to cycle quickly through battle reports when viewing them from the Briefing Report.

### **Briefing Report**

- Now includes a new ‘Air Interceptions’ section in the Action Reports. It gives quick access to all Air Interception reports for the turn, in the same way as is done for air strikes.
- The listing of action reports of all kinds has been made consistent in terms of how dates and times are displayed.
- A new section shows Aircraft by Carrier – in the same way as does the existing Aircraft by Airfield section.
- Air group experience is shown in the Briefing Report.

### **Miscellaneous**

- The Italian flag has been corrected (courtesy of H Buhring)
- File sizes have been further optimized.
- The bug in the turn calculation that allowed differential player results in certain situations has been fixed.
- The bug allowing army units at Gibraltar to enter neutral Spanish territory has been fixed.
- The bug affecting capture of ports has been fixed.

## Selected screenshots from 1.1

### *The 'Own Air Strike Orders' dialog*

(Showing the pending strikes tab, unexpanded)

Own Air Strikes					Preferences		?	X	
➤ Pending		Promotable		Invalid					
Group	Target	TV	AP	B	(RB)	F	(RF)	EF	
MESSINA									
➤➤➤	Malta	RF at 23/18	50	120	6	(21)	28	(15)	8 ☆

(Showing the pending air strikes tab, expanded)

Own Air Strikes				Preferences		?		X	
➤ Pending		Promotable		Invalid					
Group	Target	TV	AP	B	(RB)	F	(RF)	EF	
MESSINA									
➤➤➤	Malta RF at 23/18	50	120	6	(21)	28	(15)	8	☆
Total AC in Group:									
➤ Pilot quality: Mediocre									
➤ 3*C.200CB (Saetta), 5*Ca 310 (Libeccio)/Ca 311, 27*He111 H-3, 3*Ju 52/3m, 16*Ju 8									
Bombers selected for strike:									
➤ 6*He111 H-3									
Fighters selected for strike:									
➤ 28*RE.2001 (Falco II)									
Target info									
➤ Fleet RF at 23/18: Last sighted 5 hrs ago Location: hex 23/18 Speed: 0 kts Head									
➤ Port of Malta									
➤ Enemy aircraft in hex:									
➤➤ 1*Level Bombers: 1*Lysander II									
➤➤ 8*Fighters: 4*Hurricane IIC 4*Sea Hurricane IA									

(Showing the invalid strikes tab)

Pending		Promotable	> Invalid
Group	Target	Reason for invalidity	
BENGHAZI			
>>>	Gibraltar CF3	Target outside max attack range	
>>>	Gibraltar Home Fleet Reserve	Target outside max attack range	
>>>	Gibraltar TF2	Target outside max attack range	
FLEET TF2			
>>>	Gibraltar CF3	Target outside max attack range	
>>>	Gibraltar Home Fleet Reserve	Target outside max attack range	
>>>	Gibraltar TF2	Target outside max attack range	
>>>	Malta RF at 23/18	Target outside max attack range	
FLEET TF6			
>>>	Gibraltar CF3	Target outside max attack range	
>>>	Gibraltar Home Fleet Reserve	Target outside max attack range	

## Revised 'Air Strike Orders' dialog

☐ stop calc
 **Air Strike Orders**
?

Strike from Messina on Malta. Cr. speed = 207 mph.

(View Selected AC) (View Target)

**Aircraft Available**

- 3 \* C.200CB (Saetta)
- XXX 5 \* Ca 310 (Libeccio)
- 21 \* He111 H-3
- XXX 3 \* Ju 52/3m
- XXX 16 \* Ju 87B-1
- XXX 18 \* Ju 88A-4
- XXX 20 \* Ju 88A-4/Trop
- XXX 10 \* Ju 88D-1
- 12 \* RE.2001 (Falco II)
- XXX 4 \* SM.79 (Sparviero)
- XXX 3 \* SM.84

**Bombers in the Strike**

- 6 \* He111 H-3

Bomb Height very high

**Fighters in the Strike**

- 28 \* RE.2001 (Falco II)

Abort
Clear
OK

## Cleaner Pop-up event messages, including new Air Interception message



## Air Interception Battle Results

### Battle Results

Air Interception, Tuesday, 1st. of July, 1941  
in Hex 36/24

Started 8 AM

Slight ripples, light air (1-3 knots), dry, occasional high level cloud. Good visibility

IT combat air patrol from the airfield at Sallum

➤ 2\*C.200 (Saetta), 2\*C.200CB (Saetta), 8\*RE.2001 (Falco II)

➤ ➤ Pilot quality: Mediocre

UK combat air patrol from the airfield at Tobruk

➤ 2\*Beaufighter IIF, 2\*Hurricane IIC, 2\*Sea Hurricane IA

➤ ➤ Pilot quality: Very good

Combat results:

➤ IT aircraft losses:

➤ ➤ 1\*C.200 (Saetta)

➤ UK aircraft losses:

➤ ➤ 2\*Beaufighter IIF

## Revised 'Hex Assets' dialog

(Showing new Air Groups Tab)

Assets in hex: 26/10	
Fleets	➤ Air Groups
Port Infrastructure	
Own Air Groups:	
<div>ALL</div> <div>Carrier Aquila</div> <div>Carrier Sparviero</div> <div>Airfield at Taranto</div>	
<div>Carrier Aquila</div> <div>Pilot quality: Mediocre</div> <div>Weather/Visibility unsuited to launching</div> <div>67 * RE.2001 (Falco II)</div> <div>AC on CAP:</div> <div>(None)</div>	



(Showing new Port Infrastructure Tab)

Assets in hex: 26/10			
Fleets	Air Groups	Port Infrastructure	
Infrastructure		Current Level	Planned Level
➤ Airfield:		10.0	10.0
➤ Docks:		5.0	5.0
➤ Defences:		7.0	7.0
➤ Export Industry:		0.0	0.0
➤ Domestic Industry:		2.0	2.0
➤ Raw Materials Index:		0.0	
➤ Domestic Materials Index:		2.0	

## New Airpower mappings

(Showing Own Air Power maps for whole theatre, with details for hex where mouse is)





(Showing own air power from selected hex)



(Showing details for own selected air strike)



(Showing enemy air power)



## ***New Briefing Report sections***

(Showing list of Air Interceptions)



(Showing new Aircraft by Carrier section, plus air group experience and squadron info)



## Other Priority Changes

All changes so far mentioned, except for the new Mediterranean Map, will *definitely be included in the 1.1 update*. The new Map will hopefully be, but if not it will be part of a 1.1.1 update that will come out within a few weeks after release of 1.1.

Other changes that may make the 1.1 cut, but will probably be in 1.1.1 include:

- Corrections to ship repair times.
- New mine avoidance logic that will allow fleets to manoeuvre around known enemy mines during fleet movement.
- New ability to save the options set during turn calculation, so that these are remembered and do not have to be re-set each time during calculation.
- The progress bar during calculation sometimes does not correctly show 'Paused' when the calculation is paused.
- The currently enabled hot key options on the turn calculation map will be shown.
- In the air strike battle results screen, the strike number (and point of origin) will be shown, as will the name of the enemy fleet, so players can better relate the action to the strikes they see moving on the map.
- An overdue update to the pdf manual downloadable from the web site, to bring it into line with the in-game help files.

Changes that would be part of 1.1.2 would include:

- Corrections to ship names.
- Revision of land combat logic, and of the AI for automatically setting up transport missions involving troops, plus adding the ability to nominate that garrisons stay in place.
- More flexibility when saving games:
  - Can save and go back to previous saves of a campaign, rather than just the ability to re-start from the beginning.
  - The ability to create multiple versions of a campaign and have them running side by side.
- The ability to save a campaign at various points whilst creating it, instead of having to do it all in one go. Also, after loading it, the ability to go back and edit previously entered steps.
- The addition of (optional) sound effects.
- If the effort is worth it, some sort of RP watcher, that will allow you to get a more dynamic view of RP usage during a turn.
- The addition of certain hot keys throughout the game, in a consistent way (eg 'q' to quit the current screen).

In subsequent updates, implemented progressively:

- Land combat may get further tweaking.
- An ability to have a saveable, customizable AAR of each turn that can be viewed and printed when required.
- The addition of historical/geographical data to the weather generator module.

- **Most importantly, the ability for players to make tactical decisions during surface ship battles will be progressively added,** so that SAS will (progressively) become a full tactical battle simulation as well.
- New full campaign scenarios, including new theatre maps (eg the Indian Ocean).
- New mini-campaign scenarios, which would play out over a few months.
- The ability to have multiple countries per side and perhaps some added nations in the database.

The above is not exhaustive – the NWS team will continue to energetically develop and support SAS into the future, taking feedback from players continuously.

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For the NWS Team

August 2009